Copy: Mr. Miller.

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BUREAU OF ENTOMOLOGY.

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S
Insect Control-
Modoc

October 17, 1922

Report of Examination

of

Fandango, Lassen, Buck Cr., Soup and Mill Creek Basins.

Modoc National Forest

September 21-24 1922.

1. Western Pine Beetle in Yellow Pine: (Dendroctonus brevicomis)

The Fandango, Buck creek and Lassen Creek basins were examined by the writer on September 21 to 24 1922. Section 4, T. 45 N., R. 15 E., was cruised as a check. This section had previously been cruised and the loss for the previous years accurately marked.

In July, 1919, the above section was cruised by Mr. Ralph Hopping of the Forest Service and all the infested trees marked. The figures from this cruise show a recent loss on this section, probably covering a four year period, of 1,130,000 B.F. and a loss for the season of 1919, up to July 1, of 184,150 B.F.

Mr. Miller, of the Bureau of Entomology, made a survey of the area in 1920 and noted a considerable decline in the 1920 infestation over that of 1919.

In August, 1921, another cruise was made of the same section by Mr. F. P. Keen of the Bureau of Entomology and the 1920 and part of the 1921 loss was marked.

The present cruise was made on September 21, 1922 and the 1921 loss and summer brood trees of 1922 were marked. The results of the successive cruises are summarized as follows;

YEAR	Trees killed	Volume B.F.	Per cent of total stand killed
Old Loss	About 4 yr. period	1,130,000	8.9
C 1919	(About 90)	238,760	1.9
D 1920	31	86,700	.6
E 1921	23	38,810	.3
F 1922	13 (to date)	23,460	.18
About 8 years	157	1,517,730	11.88

The timber cruise of this section shows a total stand of 12,841,000 B.F. of merchantable yellow pine.

Strip cruises, ten chains wide were made through the lower Lassen Creek basin showing an average loss of;

Trees killed 1920,---------32 per section.
Trees killed 1921,---------28 per section.

S Strip cruises through the lower Fandango watershed showed an average loss of;

Trees killed 1920,---------20 per section.
Trees killed 1921,---------20 per section.

Strip cruises ten chains wide throughout the upper drainages of both Lassen and Fandango Creeks indicated an average loss of;

Trees killed 1921,---------16 per section.

II Mountain Pine Beetle in Yellow Pine;(Dendroctonus Monticulae)

Sugar Hill Area; This epidemic area is situated on the north and east slope of Sugar Hill and includes parts of sections 23, 24, 25, 26, T. 46 N., R. 14 E., M D M. An attempt was made to map in the infested area to determine its extent and spread.

Year	Approximate acreage infested.	Per cent killed.
1918 and older	60	100
1919----1920	130	100
1920-- 1922	300	70

The 1921 loss shows the infestation to be spreading south and west into sections 23 and 26. The 1921 loss is more or less scattered with large groups of poles completely killed. Many of the remaining poles have been attacked by the 1922 generation and it seems to be only a matter of time until the loss will be one hundred per cent over the entire area of the old burn.

The infestation so far has been confined to a pole stand which came in following an old burn of many years ago. However, where the infestation has reached the edge of the old burns a few large merchantable yellow pine have been killed.

III The Soup, Mill Creek and Fitzhugh Creek drainage basins were covered by a general reconnoisance on September 27 to 29, 1922, to determine the location and intensity of the infestation of that region.

A strip cruise, five miles in length, from Mill Creek to Fitzhugh Creek indicated a comparatively low, endemic infestation. The loss per section would hardly average over ten trees per section for the season of 1921. Losses for previous years were also low. The ten chain strip count gave less than one tree per mile for the area covered.

The most conspicuous center of infestation is located on the ridges immediately north of Joss Valley, particularly on the Soup Creek and Mill Creek watersheds. The lower elevation (5,200 to 6,000 ft.) of this area probably accounts for the heavier infestation. The elevation of the remainder of the yellow pine area surrounding Joss Valley is, for the greater part, six thousand feet or above. The upper limit of the epidemic infestation encountered so far has been about five thousand five hundred feet. The southern and eastern slopes show the heaviest infestation.

The area of heaviest infestation embraces roughly, parts of sections, 1, 2, 3, 10, 11, 12, 13, 14, 15, 23, 25, 24, 26, 27, and 35, T. 40, N. R. 14 E., M.D.M, and parts of sections 16, 17, 20 21, 28, 29, T. 40, R. 15 E., M.D.M. The epidemic infestation would include about eight full sections of merchantable yellow pine.

A strip cruise was made through the heaviest portions of the infestation giving the following results;

T. 40	Secs.	R.	Distance	No. Trees 1921	No. Trees 1922	Loss per Sec. 1921	Loss per Sec. 1922
	13-24	14	80 ch.	4	1	32	8
	17-20	15	65 "	7	2	72	24
	20-21	15	80 "	8	6	64	48
	20-29	15	65 "	6	6	64	64
	23-26	14	80 "	8	3	64	24
	26-35	14	40 "	4	1	64	16
	35	14	80 "	14	5	112	40

Total Loss, T. 40 R. 14 and 15;
Year 1921 572 trees Total volume 572,860 B.F.

The estimate for the 1922 loss includes only the trees attacked up to date and will be considerably increased by the fall attack.

Trees marked along a three mile strip gave the follow- percentage as to infestation in yellow pine.

Dendroctonus Brevicomis 29%
" Monticulae 59%
D.Monticulae& Brevicomis 16%

Most of the 1922 attack were found in groups of from two to seven trees and about ninety per cent of them were found to contain larvae, pupae and some new adults.

The nature of the infestation indicates that there is no decline in the epidemic in this immediate area and that the 1922 loss will be as great or greater than that of 1921.

(Signed)
O.J. Hauge
O.J.Hauge
Entomological Ranger.

RECCOMENDATIONS

In addition to the cruises made by Rangers Hauge and Houston, an examination of Fandango Creek, Lassen Creek and Sugar Hill was made by the writer on September 9, 1922.

1. Western Pine Beetle

As reported by Ranger Hauge this area is very free from Western Pine Beetle infestation. The total annual loss, not exceeding thirty trees per section, is very light when compared with infestations running aroud one hundred eighty trees per section as found in the Devil's Garden district.

No control workagainst the Western Pine Beetle could be reccomended in the Lassen Creek area.

In the South Warner Mts., just north of Jess Valley, an infestation running as high as one hundred fifty trees per section was found by Ranger Hauge, covering an area of only about five sections. North of Cantrall's Mill a very low endemic infestation was found.

It is reccomended that some attention be given to this small area to prevent a spread of this epidemic infestation.

The treatment required in the spring of 1923 on the basis of the 1921 loss would be as follows:-

Treatment required;	286 trees	286,000 B. F.
Cost at $5. per thousand,		$1,430.00

However since this is adjacent to the logging operations of the Cantrall Mill, it would be much better if an arrangement could be made with the mill owners to log out the infested trees, after marking by a competent spotter, even paying them two or three dollars per thousand for the extra expense of going after these trees.

If the mill operators would not consider such a proposition, it would end the trouble if a sale could be made of this small tract and the entire infested area logged.

2. Mountain Pine Beetle in Yellow Pine.

The very conspicuous epidemic of mountain pine beetle in pole stands of yellow pine on the north slope of Sugar Hill, which has been watched with a great deal of interest for a number of years is still virulently epidemic. However, a slight decline seems apparent with a breaking up of the solid centers into more scattered groups. As predicted in last years report, so far the infestation has not spread to the south and west slopes nor to the commercial yellow pine stands outside

of the old burns.

Due to the low value, placed by the Forest Service, on pole stands of the age which is being killed by this epidemic, and the correspondingly high cost of control work in such dense stands, it is the opinion of the writer that control work would not be profitable on the area and hence cannot be reccomended. It will be best to leave the control to natural agencies which will in time become dominant, unless it is positively seen that commercial timber is seriously threatened.

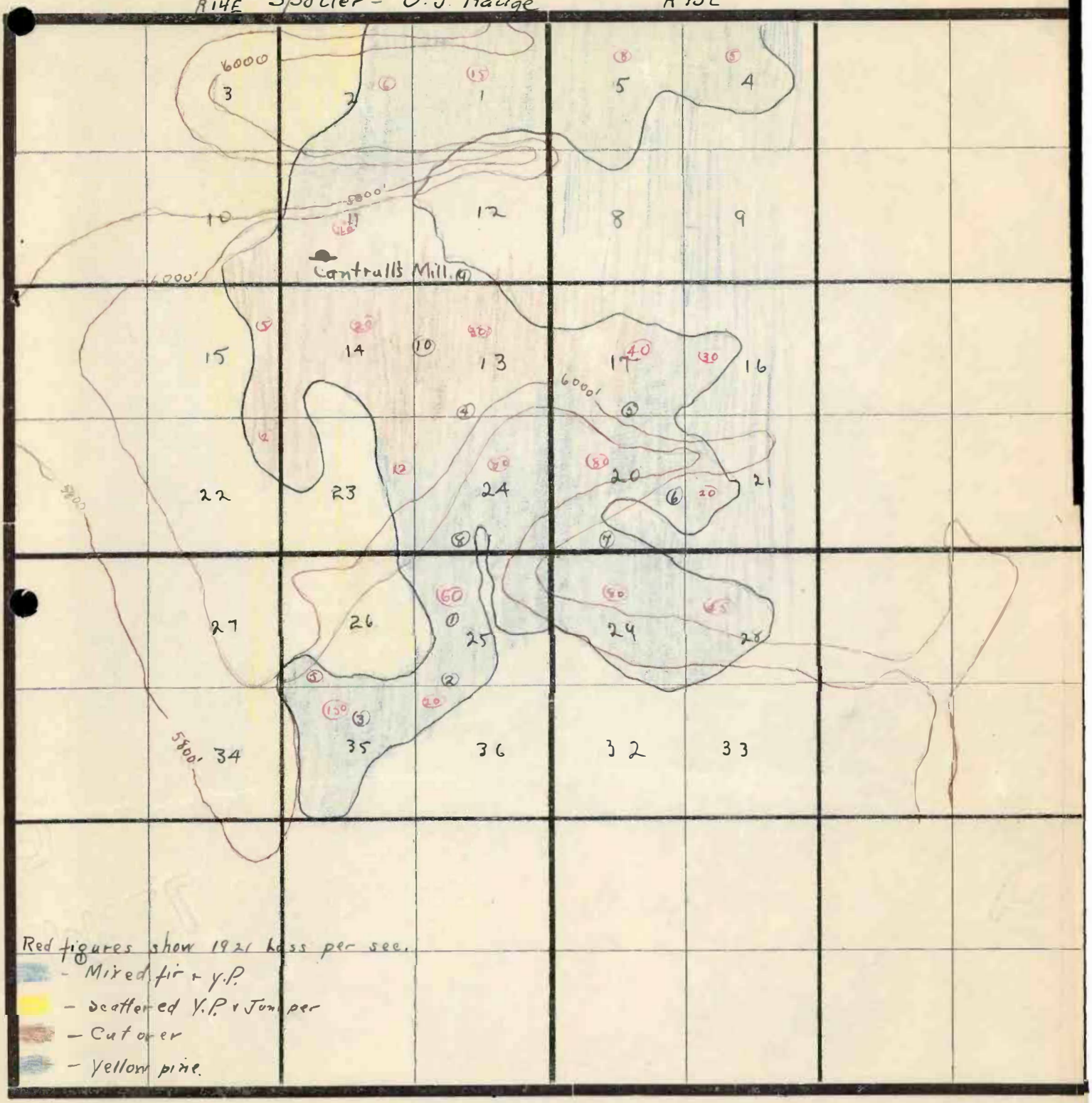
(Signed) F.P.Keen
F.P.Keen
Assistant Entomologist.

Dendroctonus Monticolae epidemic on Sugar Hill, Modoc National Forest, Calif., September, 1922. View from Lassen Creek, looking south to Sugar Hill. The timber line of the upper edge of an old burn can be seen in the back ground. Practically all of the yellow pine poles have been killed below this line to the canyon bottom.

Project Area _____ Unit Jess Valley Camp No. 17

Date 9-29-22 Compassman Iran Houston T. 48-N R. 14-15E Sec. M.D.

Spotter - O. J. Hauge



Remarks: no trees Per sec

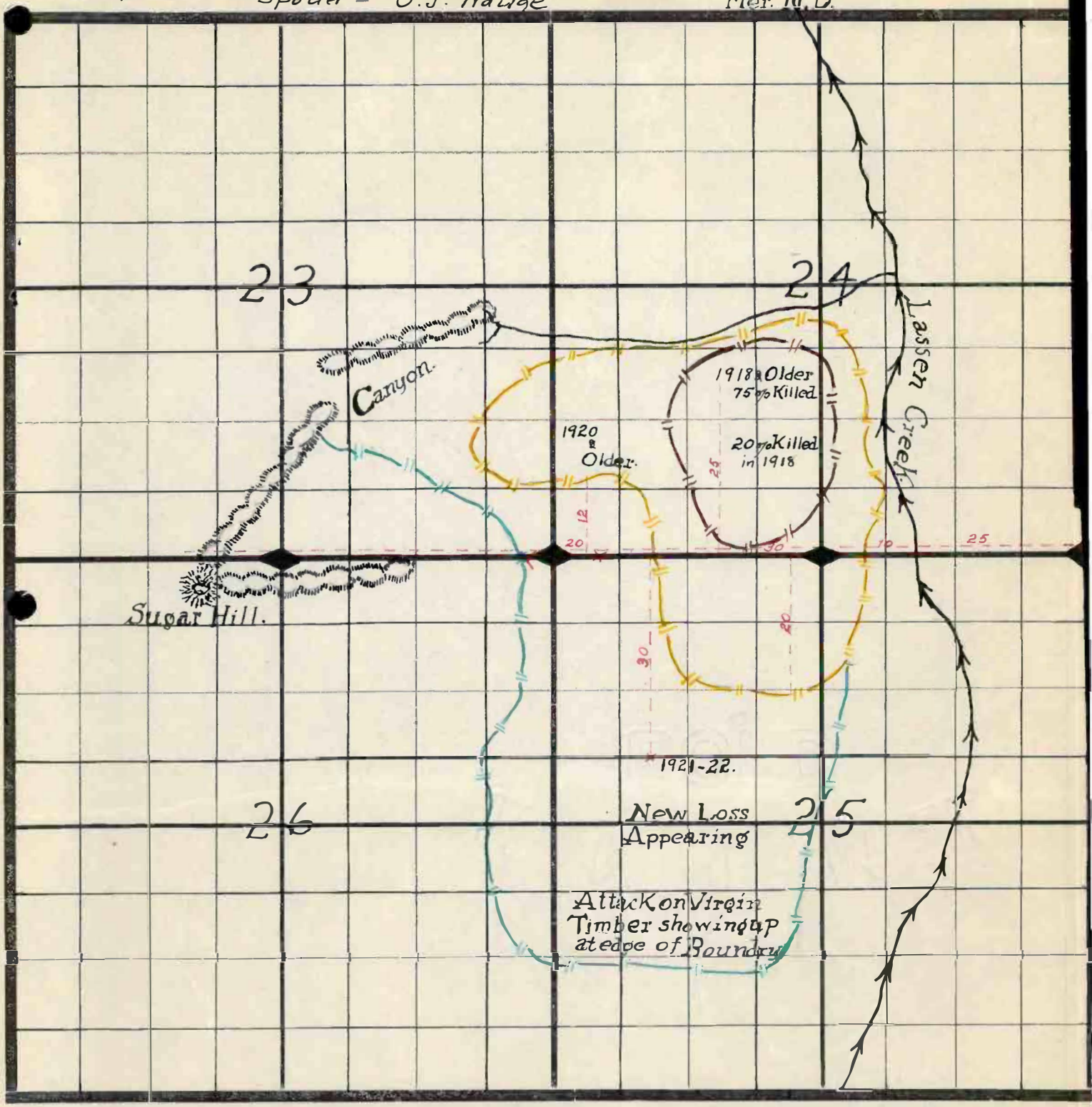
Strip No	Distance	1921	1922	1921	1922
(1)	1, Mk	8	5/2	64	24
(2)		8	5	64	16
(3)	1 "	14	1	112	40
(4)	1 "	4	2	32	8
(5)	1 "	7	6	56	16
(6)	3/4 "	8	6	64	36
(7)	1 "	7	4	56	36
(8)	3/4 "	8	0	64	12
(9)	1 "	0	0	0	0
(10)	1 "	0	0	0	0
(11)	1 "	2	0	16	0
(12)	1 "				

(1922 Loss To Date)

Project Area _____ Unit Sugar Hill. Camp No. 1

Date 9/21/22. Compassman Ivan Houston T. 46 N. R. 14 E. Sec. 13

Spotter – O.J. Hauge Mer. M.D.



Remarks: _____

1921-22 Infestation in scattering groups.

1920 & Older. Yellow Pine Loss Within This Boundary 100 o/o.

1918 & Older.

Lines run thru infestation.